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Training Pediatricians to Support Families of Lesbian, Gay, Bisexual, Transgender, and Queer Youth

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TRAINING PEDIATRICIANS TO SUPPORT FAMILIES OF LESBIAN, GAY, BISEXUAL, TRANSGENDER, AND QUEER YOUTH

A Thesis Presented to
The Faculty of the School of Medicine
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Master of Medical Science

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List of Abbreviations

ABFT – Attachment-based family therapy
ConnAPA – Connecticut Academy of Physician Assistants
CT – Connecticut
CT-AAP – Connecticut Chapter of the American Academy of Pediatrics
FAP – Family Acceptance Project
HRC – Human Rights Campaign
LGBTQ – Lesbian, Gay, Bisexual, Transgender, and Queer/Questioning
LTSI – Learning Transfer System Inventory
MSM – Men who have sex with men
NAPNAP – National Association of Pediatric Nurse Practitioners
PFLAG – National Federation of Parents and Friends of Lesbian and Gays
RCT – Randomized-controlled trial
SOCCS – Sexual Orientation Counselor Competency Scale
TGD – Transgender and gender-diverse

List of Definitions

Gender identity – a person’s internal sense of being male, female, or something else
Gender minority – a person whose gender does not match their sex assigned at birth
Pediatrician – a pediatric provider; including physicians, nurse practitioners, or physician assistants
Self-efficacy – an individual's belief in their capacity to execute behaviors necessary to produce specific performance attainments
Sexual orientation – a person’s emotional, sexual, relational, and/or romantic attraction to other people, usually classified as heterosexual, bisexual, or homosexual (lesbian or gay)
Sexual minority – a person whose sexual orientation is something other than heterosexual
Transgender – a person who identifies as the gender opposite their sex assigned at birth

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Abstract

Lesbian, gay, bisexual, transgender, and queer youth have an increased risk of mental health disorders. Family support of the child’s sexual orientation or gender identity can mitigate this increased risk when families are provided the proper tools. Pediatricians have the potential to strengthen the parent/child relationship, but few pediatricians receive training in how to guide parents appropriately and accurately. In this randomized controlled trial, we test whether receiving the Family Acceptance Project training increases pediatricians’ self-efficacy in engaging parents to support their lesbian, gay, bisexual, transgender, or queer child. We will utilize a waitlist control arm to examine the change in self-efficacy of pediatricians who receive the training versus those who do not. This training may help pediatricians support parents to accept their sexual or gender minority child with the ultimate goal of reducing poor mental health outcomes among lesbian, gay, bisexual, transgender, or queer youth.
CHAPTER 1: INTRODUCTION

1.1 Background

1.1.1 LGBTQ Mental Health and Families

Lesbian, gay, bisexual, transgender, or queer (LGBTQ) individuals are at increased risk of poor mental health outcomes compared to their heterosexual peers, according to the Institute of Medicine\(^1\). Numerous studies have commented on the high risk of poor health outcomes in LGBTQ youth, including depression, suicide, and homelessness\(^2\)-\(^{10}\). LGBTQ youth are approximately 4 times more likely to seriously consider suicide, make a plan for suicide, and to attempt suicide versus their heterosexual, cisgender peers\(^{11}\)-\(^{13}\). One primary predictor of an LGBTQ child’s mental health and suicide risk is family acceptance of the child’s identity\(^{14,15}\). Family acceptance includes a positive reaction from family members upon their child’s disclosure of their sexual orientation, as well as continued support of their child’s identity\(^{16}\). Specifically among LGBTQ youth, parent-child connectedness has been found to be a strong protective factor against self-harm behaviors\(^{17,18}\). Too often, the parents and family of LGBTQ youth are not equipped with information on how they can best support their child. They feel uncomfortable navigating the LGBTQ realm and have difficulty defying stigmatizing societal attitudes and rhetoric\(^{19-21}\). These parents and families of an LGBTQ child could have a resource in the pediatrician that they visit regularly.

1.1.2 Role of Pediatricians

Pediatricians can use their position to address the degree of connectedness between a parent and their LGBTQ child, potentially assisting in the growth of this bond.
Families rely on their children’s pediatricians for advice and direction on numerous subjects, from milestones, to anticipatory guidance, to mental health\textsuperscript{22,23}. Bright Futures and the American Academy of Pediatrics recommend annual visits with a pediatrician for children who are 3-21 years old\textsuperscript{24}. The regularity of these meetings allows pediatricians to have an important position in the process of encouraging parents to take a role in preventing poor mental and physical health outcomes for their LBGTQ child.

Pediatricians are often a part of the process of ensuring a positive and supportive parental environment for all of their patients\textsuperscript{22}. This focus on the parent-child relationship should be stronger for LGBTQ patients due to their risk of parental rejection of their sexual orientation or gender identity, which has been correlated to higher rates of suicide attempts, depression, illegal drug use, and unprotected sexual intercourse\textsuperscript{15}. The growing LGBTQ population makes it more likely that a pediatrician will have a patient in this population, and it is imperative that they are equipped to provide resources to the family. According to a report by the National Survey of Family and Growth, 9.6\% of youth ages 18-24 identify as a sexual minority, and a 2017 Gallup Daily tracking survey estimated that 11.3\% of youth ages 18-24 identified as LGBTQ\textsuperscript{25-27}. A study by Kimberly McManama O’Brien et al. focused on how the subgroup of sexual and gender minority youth contrasts with the general population, concluding that this unique population requires interventions geared specifically for them.\textsuperscript{5} These authors also mentioned that interventions should give focus to family acceptance and support in order to reduce high rates of suicide-related thoughts and behaviors.\textsuperscript{5} Our proposed study will build off this conclusion by utilizing an intervention that aims to teach pediatricians how to engage parents to support their LGBTQ child.
1.1.3 LGBTQ Curriculum in Medical Education

Historically, LGBTQ curriculum has not been a prominent part of pediatrician education. A 2015 study by Beagan et al. conducted physician interviews in which most physicians stated that they learned little or nothing about LGBTQ health in medical school. In this same study, nearly 25% of participants stated that sexual orientation is not relevant to patient care. This perspective has the potential to be harmful to the health of LGBTQ patients. Certain organizations are progressing toward additional recognition of the importance of including the LGBTQ-specific education for providers, including the Association of American Medical Colleges, which has started to create resources specifically for curriculum reform with more of a focus on working with LGBTQ youth. The information shared from these medical school curriculum reforms will unfortunately not reach graduated pediatricians.

1.1.4 Gap in Literature

Many studies have investigated predictors of higher mental health risk among LGBTQ youth, such as bullying and family or peer rejection, but few studies have tested methods to address these risk factors for LGBTQ youth. Many of these same studies conclude by suggesting the utilization of pediatricians as a resource to decrease these high rates of mental health disorders, but there are minimal studies that follow this suggestion. Research has emphasized the importance of ongoing education on culturally sensitive care for providers and staff in a pediatric office, but no randomized-controlled trial (RCT) has been done with pediatricians that tested the success of an LGBTQ training focused on parents. In terms of specific interventions utilizing pediatricians to intervene in the path to high rates of poor mental health outcomes in
certain subgroups, the LGBTQ population is not given the amount of attention necessary, despite awareness of higher mental health morbidity.

As a first step to equipping pediatricians with the skills needed to support parents navigating the important process of supporting their LGBTQ child, the current study will test the impact of a training for pediatricians on their self-efficacy in engaging parents to support their LGBTQ child. Self-efficacy is defined as the belief that one can accomplish what they set out to do\textsuperscript{33}. This outcome has been shown to correlate with behavioral intentions\textsuperscript{33}. Our proposed study will utilize an intervention to train pediatricians based on educational resources from the Family Acceptance Project (FAP).

1.1.5 The Family Acceptance Project

FAP was developed by Dr. Caitlin Ryan with the overarching goal to guide families from diverse backgrounds to best support their LGBTQ children. FAP is an organization dedicated to using research to fuel education and policy to prevent negative health outcomes in LGBTQ children and youth. This organization has developed the first evidence-based family support model for caretakers of LGBTQ youth from diverse backgrounds. The family support model includes engaging families to prevent suicide for LGBTQ youth, helping families support LGBTQ youth, and engaging families as allies to promote school safety and wellness for LGBTQ students\textsuperscript{34}. Trainings for specific groups of people (e.g. health professionals, religious leaders) are conducted in person over half a day. In addition to these trainings, the website has numerous other suggestions for sharing information on supporting LGBTQ youth, including posters, videos, and booklets. Although the FAP training was created based on research identifying the most
important methods in protecting LGBTQ youth from poor mental health outcomes, it has not been tested in a clinical environment.

1.2 Statement of the Problem

Parental rejection of an LGBTQ child significantly contributes to the increased risk of poor mental and physical health outcomes among LGBTQ youth, including higher rates of suicide, depression, illegal drug use, and unprotected sexual intercourse. Family acceptance and support of their LGBTQ child’s identity can protect these youth from such risks, as well as promote well-being. In the setting of proper training on how to educate and involve parents in their LGBTQ child’s health, pediatricians are well-positioned to encourage parents to support their LGBTQ child and share the potential impacts that family reactions may have on a child’s future. The Family Acceptance Project has completed extensive research in order to create the best education method to mitigate risk factors for LGBTQ youth, but the efficacy of their healthcare provider training material has not yet been tested in a randomized-controlled trial.

1.3 Goals and Objectives

To discover if educating pediatric providers with the Family Acceptance Project training increases their self-efficacy in engaging parents of LGBTQ youth in a conversation on support of their child’s sexual orientation and gender identity. Also, to assess the change in provider’s perception of importance of materials, knowledge of materials, and attitudes towards LGBTQ people after receiving training on having effective conversations engaging parents of LGBTQ patients on how to support their child, ultimately decreasing mental health risk in LGBTQ youth.
1.4 Hypothesis

General pediatric providers in the state of Connecticut who receive the Family Acceptance Project training will have an increase in self-efficacy of engaging parents in supporting their lesbian, gay, bisexual, transgender, or queer/questioning child than pediatricians who do not receive the training.
References

CHAPTER 2: REVIEW OF THE LITERATURE

2.1 Introduction: Search Criteria

During the time period of August 2020 through April 2021, we completed numerous searches on PubMed, Ovid Medline, Scopus, and Cochrane Library databases. These were conducted with assistance from librarians at Yale School of Medicine. The main MeSH terms used were “sexual and gender minorities” and (“family” or “parent-child relations” or “parents”) and “pediatrician”. Additional search terms included (“LBG*” or “homosexual*” or “bisexual*” or “transgender” or “lesbian” or “gay” or “queer”) and “mental health” and “family rejection” and (“provider” or “doctor” or “physician” or “medical student” or “nurse” or “nursing student”). The references of all relevant studies were examined to provide additional relevant articles. Preference was given to articles that were published in the past 10 years.

This literature search encompasses the role of parents and family rejection in producing minority stress and associated mental health problems among LGBTQ youth, as well as current interventions that target parental education as a method to protect LGBTQ youth from health risks. We will explore the gaps in interventions and explain the potential role of the Family Acceptance Project (FAP) training for pediatricians. Through understanding relevant studies and identifying the limitations, we will demonstrate the need for our RCT testing the efficacy of a promising intervention for pediatricians to encourage family support of LGBTQ youth.
2.2 Review of Empirical Studies

2.2.1 LGBTQ Youth Minority Stress

The concept of minority stress in the LGBTQ population was extensively discussed in a review article published in 2003 by Ilan Meyer. Minority stress theory posits that chronic experiences of stigma, prejudice, and discrimination against one’s identity creates a stressful social environment, leading to the increased rate of mental health disorders in this minority population. Examples of stress processes described in this review include prejudiced encounters, expectation of rejection, and internalization of negative societal attitudes (internalized homophobia). These stress processes are associated with lower levels of support and belonging felt by sexual minorities. Minority stress may be related to poor mental health outcomes for sexual and gender minorities through pathways that are direct as well as indirect. A 2015 study by Baams et al. surveyed 876 sexual minority youth and found that the link between minority stress and poor mental health was mediated by perceived burdensomeness. Sexual minority youth who feel that their sexual orientation burdens important people in their lives are at higher risk for depression and suicidal ideation.

A clear example of minority stress that the LGBTQ community faces is the disproportionate amount of violence and bullying experienced by the population. Using data from the National Crime Victimization Survey, researchers found that total violence rates were 2 to 9 time higher among sexual minority people versus heterosexuals. Transgender and gender-diverse (TGD) people are at an especially high risk of exposure to violence, and transgender hate crimes recorded by the FBI increased by 41% in 2018 in the United States. LGBTQ adolescents have also been found to be more likely to
report experiencing physical and sexual violence than their heterosexual and cisgender peers\textsuperscript{4,6,7}. Bullying is more commonly directed towards LGBTQ individuals\textsuperscript{8-10}; among LGBTQ youth who died by suicide in the US, 20\% of them had experienced bullying prior to death, versus only 4.4\% of heterosexual, cisgender youth who died by suicide\textsuperscript{11}.

Numerous researchers have explored the concept of the impact of minority stress on LGBTQ individuals, concluding that actual and feared discrimination leads to higher rates of mental health disorders\textsuperscript{10,12}, including depression\textsuperscript{13,14}, anxiety\textsuperscript{15}, and suicidality\textsuperscript{13,16} as compared to heterosexual, cisgender people. In addition, over half of TGD adolescents have reported self-harm behavior in the past year\textsuperscript{17}. The increased risk of suicide in the LGBTQ population illustrates the life-threatening aspect of minority stress. LGBTQ youth specifically have been shown to be 3 times as likely to attempt suicide in comparison with their heterosexual, cisgender peers\textsuperscript{18}, with one study showing 31\% of LGBTQ youth reporting suicidal behavior\textsuperscript{12}, versus 4.1\% of the general population\textsuperscript{19}.

LGBTQ youth are also disproportionately burdened by homelessness. A literature review showed that the LGBTQ population makes up 20-40\% of all people who experience homelessness\textsuperscript{20}. Among students attending public high school across eight states, 6.8\% of teenagers who identify as a sexual minority experienced homelessness compared to 2.8\% of heterosexual teenagers, and nearly 1 out of 5 students who experienced homelessness identified as a sexual minority\textsuperscript{21}. Homelessness in sexual minority teenagers is associated with higher rates of alcohol misuse, illicit drug use, poor grades, suicidality, and risky sexual behavior\textsuperscript{22}. Many additional studies have
demonstrated that identifying as LGBTQ increases risk of being homelessness\textsuperscript{23-25}, with discrimination being a significant contributor\textsuperscript{25,26}.

\textbf{2.2.2 Parental Attitudes Towards LGBTQ Youth}

Parental support is an important factor in the healthy development of any child\textsuperscript{27} and has been shown to have an enormous effect on LGBTQ health risks\textsuperscript{28,29}. LGBTQ youth are often discovering their sexual orientation and gender identity in the time of adolescence\textsuperscript{30}, which tends to be a demanding time in the relationship of any parent and child\textsuperscript{31}. Family acceptance of an LGBTQ child’s sexual and/or gender identity (referred to in the remainder of this review as “family acceptance”) has been shown to predict greater self-esteem and health status, as well as protect against mental health comorbidities commonly seen in the LGBTQ population, such as depression, substance abuse, and suicidality\textsuperscript{29,32}. Parent-child connectedness also improves sexual health among TGD youth and is associated with reduced odds of HIV positive status in men who have sex with men (MSM)\textsuperscript{33,34}. In one study, when other types of support for LGBTQ youth were examined, such as from friends or community, family acceptance prevailed as having the strongest influence on positive outcomes and self-esteem\textsuperscript{35,36}.

Family rejection, on the other hand, is harmful to LGBTQ youth\textsuperscript{37}. Unlike other ethnic or religious minorities, sexual and gender minority youth often do not share the same identity as their family. Therefore, in addition to minority stress from communities outside their family, this population is also at risk for experiencing stress and trauma at home\textsuperscript{38}. When LGBTQ youth decide to share their sexual or gender identity with their families (also known as “coming out”), many feel fear and expect rejection\textsuperscript{39}. Those who receive a negative response when they initially come out to their parents have been found
to suffer from more depression and lower self-esteem, as well as more suicidal thoughts. This first parental reaction to a child’s sexual orientation and/or gender identity has been shown to have lasting effects on the LGBTQ child’s health. When collecting information from parent-LGBTQ child pairs, it was found that when parents struggle with their child’s sexual orientation, the child suffers from additional minority stress, specifically in the form of internalized homophobia. Family heteronormativity and cultural expectations often create difficult environments for LGBTQ youth, leading to poor mental health and well-being.

Higher rates of family rejection have been associated with more suicide attempts, depression, illegal drug use, and unprotected sexual intercourse. This indicates that both mental health and physical health are at risk when families reject their LGBTQ child. Ryan et al. and the Family Acceptance Project completed a study that retrospectively assessed family reactions to coming out. Results, based on odds ratios, showed that youth who experienced more family rejection suffered from a higher incidence of mental health disorders in their life. Most notably, those who experienced a high level of rejection were 8.4 times more likely to have attempted suicide compared to those who experienced a low level of rejection. In a qualitative study interviewing sexual minority adolescents with clinically significant depressive and suicidal symptoms, family rejection was found to be a common factor influencing their psychological distress.

Many types of family rejection are possible. Blatant rejection is seen in the form of verbal, physical, and sexual abuse, which LGBTQ youth are more prone to receive from parents and families than heterosexual, cisgender youth. Sexual orientation or
gender identity change efforts are another form of explicit parental rejection. This includes sending the child for religious or psychological interventions or parents themselves attempting to convince their child that they are heterosexual or cisgender\textsuperscript{48}. These experiences were found to be associated with suicidality, less education, less weekly income, and were more strongly related if the person encountered change efforts from both their parents and an outside source\textsuperscript{48}. Family conflict over the child’s sexual orientation or gender identity also increases homelessness risk for these children\textsuperscript{49}. Even if rejection is phrased in a caring manner, such as “I love you, but it is hard for me when you bring someone of the same gender home,” it can still be interpreted as rejection and continues to harm the child’s mental and physical health\textsuperscript{43,50}. Ryan explains that seemingly neutral behaviors, such as parents not talking about their child’s LGBTQ identity or minimizing their child’s LGBTQ identity, are also included in the category of “rejecting behaviors” that cause harm to the child’s health\textsuperscript{51}. Since parental rejection has such a strong impact on the health of LGBTQ youth, the Substance Abuse and Mental Health Services Administration has recommended that practitioners engage and educate parents and families to support their LGBTQ child\textsuperscript{52}.

The literature has shown that certain characteristics of families lead to an increase chance that they will be rejecting of their LGBTQ child. Lower levels of parental acceptance have been reported in racial/ethnic minority families (such as African American, Asian, or Hispanic/Latinx) versus non-Hispanic white families\textsuperscript{53,54}. Family emphasis on traditional, cultural values and expected gender roles have been shown to conflict with parental acceptance of their LGBTQ child\textsuperscript{55-58}. Racial/ethnic minority parents have also shown additional worry and concern about their child’s risk involving
homophobia or transphobia on top of their struggles with racism\textsuperscript{58,59}. Religion is another factor that has been shown to influence parental feelings towards their LGBTQ child\textsuperscript{57}. In a qualitative study with gay and bisexual adolescents, researchers identified the theme that religion was viewed by LGBTQ adolescents as a barrier to support from parents\textsuperscript{60}. A 2017 study surveyed 310 LGBTQ adults who were raised in Christian families and found that participants reported low levels of family support, which was associated with depression and suicidal thoughts\textsuperscript{61}. Parents of LGBTQ youth have also reported that religious beliefs make it difficult for them to accept their child, and they stated feeling conflicted between loving their child and following their religious beliefs\textsuperscript{62}. This research shows that families with certain backgrounds are more likely to reject their LGBTQ child, and these characteristics of families should be considered when addressing the parent-child relationship\textsuperscript{46}.

\textbf{2.2.3 Current Strategies Targeting Parents of LGBTQ Youth}

Since parents are able to mitigate the health risks of their LGBTQ child, focus should be given to interventions that involve educating and informing this population. Unfortunately, relatively few studies have addressed parents directly as a method to protect LGBTQ youth due to challenges with this group. A 2019 systematic review collected studies with pretest/posttest data on interventions for sexual and gender minority youth to reduce their inequity in mental health disorders, substance use, and violence victimization\textsuperscript{63}. This review by Coulter et al. found only one intervention out of 12 that involved parents\textsuperscript{63}. The study involving parents from this review was completed by Diamond et al., and these authors first adapted attachment-based family therapy (ABFT) to be used with suicidal sexual minority adolescents and their parents and then
assessed it with this population\textsuperscript{50}. ABFT is a 12-16 week therapy treatment that is empirically informed and manualized, involving sessions with only parents, only the child, and joined sessions\textsuperscript{64}. This therapy was adapted for suicidal sexual minority adolescents and their families by including more individual time with parents, addressing the process of family acceptance and how it presents with both the parents and children, and making parents aware of subtleties that LGBTQ children can interpret as rejecting of their sexual orientation or gender identity\textsuperscript{50}. The results showed that this therapy had high retention and led to significant decreases in suicidal ideation, depressive symptoms, and maternal-related anxiety and avoidance\textsuperscript{50}. Though this study only involved 10 parent-child pairs, the success of this intervention provides promise for future interventions that work to improve LGBTQ youth mental health through increasing parental understanding and acceptance of their child.

More recently, Goodman and Israel created and evaluated the Parent Resource for Increasing Sexual Minority Support (PRISMS), an online intervention for parents of sexual minority youth\textsuperscript{65}. PRISMS consists of 5 interactive modules based on psychological literature, covering subjects such as normalizing parent experiences, psychoeducation, reflection upon existing support, rehearsal of support, and affirmation\textsuperscript{65}. This intervention was shown to increase parental self-efficacy for supportive parenting practices versus a control ($F(1,215) = 5.15$, $p = .024$), and parents that were most rejecting showed the most intention to change behaviors ($t = -2.17$, $p = .030$)\textsuperscript{65}. Goodman and Israel had difficulty with recruitment, and they added a monetary incentive in order to increase participation. This exposes the challenges of reaching parents of LGBTQ youth. PRISMS is the only intervention for parents of LGBTQ youth.
known to date that was evaluated in an RCT setting. Self-guided modules have also been designed specifically for foster families who care for LGBTQ youth, with positive feedback on improving knowledge and support of foster caregivers\textsuperscript{66}.

Recently, researchers developed a short film as a novel method of educating families and improving responses to their sexual and gender minority children. The film entitled \textit{Lead with Love} was released online and reached a wide audience\textsuperscript{67}. Using a pretest/posttest design, researchers showed that parents who watched the film reported increased self-efficacy of parenting a sexual minority child\textsuperscript{67}. For 86\% of parents of sexual minority children that watched the film, this was the first form of support they had received\textsuperscript{67}. A limitation of interventions with parents is that participants are more likely to be those who are motivated to learn more about their LGBTQ child and want to improve their relationship. The parents who participated are more likely to be interested how they impact their child and curious about how they can help. Despite the preliminary promise of these handful of existing interventions, evidence-based, high-quality interventions must be developed and evaluated in order to provide support and information to parents of LGBTQ youth to increase family acceptance.

After a national symposium in 2016 entitled \textit{“LGBTQ Bullying: Translating Research to Action to Improve the Health of All Youth,”} expert consultation with attendees was held to create a set of recommendations for meeting the needs of LGBTQ youth\textsuperscript{68}. One of the important conclusion from this meeting was the promising position of pediatricians, and the need for them to address the struggles of LGBTQ youth through clinical care, research, interventions, and policy\textsuperscript{68}. These experts also emphasized the importance of pediatricians including parents in the conversation about ways to support
these children. Pediatricians have a vital role in promoting well-being of LGBTQ youth, and it is important for them to provide affirming health care and share skills and information so parents can continue to build a supportive environment at home.

Because pediatricians often have a relationship with parents of their pediatric patients, pediatricians can support families of LGBTQ youth by providing parents with psychoeducational materials, connecting parents with supportive resources, and serving as an advocate for their young LGBTQ patients.

### 2.2.4 Pediatricians and Parents

The goal of pediatricians is to ensure that their patients are as healthy as possible when they become adults. One way to approach this goal is to use family-centered care. The American Academy of Pediatrics defines patient- and family-centered care with the understanding that “the family is the child’s primary source of strength and support.” When pediatric care incorporates the entire family as a unit, better health outcomes result.

Pediatricians are an important resource for families, as visits are recommended to be yearly to discuss prevention, development, concerns, and needs of the child. Pediatricians are working towards increasing their abilities to address behavioral and mental health concerns of patients, as 13-20% of children in the US experience a mental health disorder each year and suicide is the second leading cause of death for people ages 10-24. It has been shown that up to 80% of youth who died by suicide had seen their primary care provider within the year of their death. Since identifying as a sexual or gender minority increases the risk of suicidality, this is an important population for pediatricians to address.
Pediatricians can play an important role in influencing LGBTQ youth’s health outcomes by sharing information and providing support early in the lives of their patients. In a survey on LGBTQ youth and their experiences with pediatricians, 59% reported they were “not at all satisfied” with the LGBTQ-specific health education from their pediatrician. Authors concluded that further research must address improving care and outcomes for LGBTQ patients. This population requires targeted interventions from pediatricians to prevent poor outcomes such as homelessness, depression, and suicide.

Since family rejection plays a large role in the future health of LGBTQ youth, pediatricians should be aware of this risk and possess the training to intervene when needed. An integrative review on encountering sexual and gender minority youth in healthcare found that health professionals who were aware of their knowledge gaps in caring for LGBTQ youth considered trainings and education on the topics to be significantly helpful.

2.3 Review of Relevant Methodology

This section of the literature review covers relevant methodology to the proposed study. For details of the methods of this proposed study, see Chapter 3.

2.3.1 Study Design Approaches

The proposed study evaluates the ability of the FAP training to increase self-efficacy of pediatricians to engage parents to support their LGBTQ children, utilizing an RCT design with a 1:1 randomization ratio and waitlist control arm. RCT design is the goal standard method to assess intervention efficacy. A waitlist control arm was chosen for our study so as to not withhold potentially valuable teachings from anyone participating in the research study. Many of the studies surveyed in our review of the
literature involving LGBTQ medical education used a pretest/posttest design to evaluate the intervention\textsuperscript{82-86}, but these studies only use one population, without a comparison arm. In a systematic review by Morris et al. on trainings to reduce LGBTQ-related bias in students in medicine and providers, 13 studies were chosen and found to be effective at increasing knowledge of LGBTQ health care issues and comfort working with LGBTQ patients\textsuperscript{87}. The majority of these studies were quasi-experimental design in the format of pretest/posttest, and none were RCT design\textsuperscript{87}. McCormick et al. completed an RCT involving training for pediatric residents to provide parent education utilizing the Primary Care Positive Parenting Program\textsuperscript{88}. Results showed that the training significantly increased pediatric residents’ parenting consultation skills (mean increase on the Parent Consultation Skills Checklist of 48.11, 95% confidence interval 40.07, 57.36)\textsuperscript{88}. As used in our proposed study, an RCT design allows randomization to occur within the population to control for potential confounding variables and therefore ensure that changes in outcomes are due to the intervention itself and not an outside factor.

### 2.3.2 Possible Confounders

A confounding variable is that which may impact the relationship being studied because it is associated with the predictor and the outcome, thus potentially creating results not attributable to the intervention.\textsuperscript{89} We will measure the known characteristics of the population that may influence the self-efficacy of pediatricians to engage parents in supporting their LGBTQ child. The collection of these characteristics will allow us to compare them between arms and ensure that randomization successfully balanced variables between the participants, thus preventing their potential to confound the study. Qualities of the pediatricians that could confound the study include age, years in
profession, race/ethnicity, sexual orientation, gender, hours of previous LGBTQ specific training, number of LGBTQ patients per week, and LGBTQ patients in lifetime.

In the past two decades, there has been a positive change in public attitudes of LGBTQ people and issues, leading to more research and understanding of the risks in this population. As time has progressed and societal acceptance of LBGTQ people has increased, more people are sharing their sexual and gender identity at earlier ages. This indicates that with time, pediatricians should be more prepared to have conversations with their patients on sexual orientation and gender identity. This also implies that depending on provider age and years in practice, a person may have a different perception of caring for LGBTQ patients, which may lead them to receive the FAP training differently and may potentially confound the results.

Since the proposed study utilizes a training involving LGBTQ care, the previous experience of providers with the LGBTQ population must be considered. This includes their own gender and sexual orientation as well as the number of LGBTQ patients the provider typically encounters in a week and how many they have encountered in their lifetime. Those who identify as female and non-heterosexual have been found to be more accepting of LGBTQ people, therefore gender and sexual orientation characteristics of participants will be collected in our study. Intergroup contact theory has shown that interactions between different social group has the potential to reduce prejudice and increase trust. This has been found to be true with sexual minority people: interpersonal contact with someone who is a sexual minority leads to a decrease in stigma, prejudice, and negative attitudes. One study utilized a population of heterosexual, cisgender people to examine the change in transgender stigma after an internet interaction with a
transgender woman\textsuperscript{5}. This showed that at baseline, women had less stigma against transgender women, and the internet interaction with a transgender person reduced stigma in cisgender men\textsuperscript{5}. This aligns with intergroup contact theory, which states more exposure to a type of person reduces bias against those people\textsuperscript{92}. Lytle et al. also showed that those who know more bisexual people predicted more positive attitudes and less intergroup anxiety when interacting with bisexual people\textsuperscript{95}. In the previously mentioned systematic review by Morris et al., intergroup contact was noted to be effective at promoting more tolerant attitudes toward LGBTQ patients\textsuperscript{87}. Previous training on caring for the LGBTQ population may also give pediatricians insight to the subjects covered in the FAP training, potentially affecting the results on the relationship between our intervention and our outcomes, specifically our primary outcome of self-efficacy of the provider to engage parents in supporting their LGBTQ youth.

Race and ethnicity have also been shown to impact people’s perceptions of the LGBTQ population. Different countries and cultures have a wide range of acceptance of LGBTQ families. One study by Costa and Shenkman reviewed research on LGBTQ relationships in non-Western regions\textsuperscript{96}. Within Latin America, their survey showed some countries had 50\% support of same-gendered relationships whereas others are 90\% against the recognition of these relationships\textsuperscript{96}. Latinx LGBTQ youth have been shown to encounter stigma of sexual and gender identity originating from culture stressors\textsuperscript{97}. In most African countries, same-gendered relationships are high discouraged, outlawed, or criminalized\textsuperscript{96}. The stigma in China has been shown to be strong, with over 70\% of the population agreeing that “same-sex sexual behavior is always wrong.”\textsuperscript{96} Religious beliefs in China partially contribute to this rejection, as they state that same-gender relationships
violate family values. This theme is found in other Asian countries as well, such as Taiwan. These cultural differences on perspectives on LGBTQ identity show that the race/ethnicity of the pediatrician may impact how they receive the FAP training. In regards to parental rejection specifically, a study analyzing parental rejection in lesbian, gay, or bisexual men and women found that Latino men reported the highest levels of family rejection and non-Latino, white women reported the least.

### 2.3.3 Primary Outcome

The primary outcome for our study is self-efficacy of pediatricians to engage parents to support their LGBTQ child. Bandura first proposed the theory of self-efficacy in 1977, stating that the level of personal efficacy determines changes in behavior and the continuation of that behavior in the setting of obstacles. He defines self-efficacy as the belief that one has the ability to achieve what they set out to do. Self-efficacy is the principal connection between knowledge and action, and is a valuable tool in evaluating health education programs. Self-efficacy has been used as an outcome measure to evaluate training on numerous health subjects, including HIV prevention, suicide risk and prevention, childhood obesity, and supportive parenting for sexual minority youth. A systematic review from 2021 collected 8 articles utilizing self-efficacy to evaluate trainings on communication skills for health professionals, all showing improvements in self-efficacy to communicate with patients after the intervention. Three of the articles in the review used a communication self-efficacy scale created by Parle et al., but this scale did not relate to our self-efficacy outcome, as it evaluated general communication skills in medicine, such as breaking bad news. Since there were no prior validated tools present in the literature to evaluate the
FAP training, we adapted a self-efficacy scale used by Ufomata et al.\textsuperscript{83} with guidance from a chapter of Bandura’s book entitled \textit{Guide for Constructing Self-Efficacy Scales}\textsuperscript{110}. Ufomata et al. had completed a study evaluating a LGBTQ primary care curriculum for internal medicine residents in which self-efficacy was utilized to assess participants change in confidence in providing primary care to LGBTQ patients from pretest to posttest\textsuperscript{83}. The adapted survey can be found in Appendix C.

\textbf{2.3.4 Secondary Outcomes}

The secondary outcomes for our study will be 1) importance of the FAP training (“importance”), 2) knowledge of FAP training material (“knowledge”), 3) attitudes towards LGBTQ people (“attitudes”), 4) perception that training material will be transferred into practice (“learning transfer”), and 5) acceptability of the training (“acceptability”). For examples of questions in each of these outcome measures, see Chapter 3.

Importance was an outcome measured in Ufomata et al., therefore we will also evaluate the perceived importance of the information from the FAP training by adapting the scale used in their study\textsuperscript{83}. This scale is necessary because recognizing the importance of parent support may increase the pediatrician’s receptiveness to information on parent support\textsuperscript{65}. We deemed importance as a pertinent outcome because providers must see the need for these skills in order to be motivated to make a change in their practice\textsuperscript{65}. The adapted survey can be found in Appendix D.

Knowledge of materials is often assessed in the literature after a training intervention on LGBTQ health\textsuperscript{84,111,112}, including in the study by Ufomata et al.\textsuperscript{83}. Kelley et al. evaluated their own LGBT health curriculum for medical students and by creating
their own survey on knowledge and attitudes of general LGBT health issues, since there was no appropriate validated tool in existence\textsuperscript{84}. Berner et al. also created their own survey to assess knowledge and attitudes of oncologists when treating LBGTQ patients with cancer\textsuperscript{111}. Due to there not being a validated tool to evaluate knowledge of the FAP training, we created our own set of multiple-choice questions to assess the level of knowledge participants have on FAP subjects, as seen in Appendix E.

Attitudes towards LGBTQ people were assessed by using the Sexual Orientation Counselor Competency Scale (SOCCS) as described by Bidell\textsuperscript{113}. This scale is described as attitudes, skills, and knowledge competencies that providers need in order to provide ethical, affirmative, and competent services to LGBTQ clients\textsuperscript{113}. Only the attitudes portion of the SOCCS was used in our study because the skills and knowledge portions were more directed towards counselors and these questions were not relevant to our proposed study. This attitudes assessment demonstrated high internal consistency reliability (\(\alpha = 0.90\)) in a sample of 312 counselors and counseling students\textsuperscript{113}. Since its validation in 2005, the SOCCS has been used to assess attitudes towards LGBTQ individuals with a variety of populations beyond counselors, including educators\textsuperscript{114} and providers\textsuperscript{115,116}. The attitudes scale can be seen in Appendix F.

An additional secondary outcome measured in our proposed study is learning transfer. This measure is a general assessment of how well clinicians can apply the content they learned to their practice\textsuperscript{102}. The validated scale, entitled the Learning Transfer System Inventory (LTSI), has been shown to differentiate providers who will ultimately use their new skills in their clinical setting\textsuperscript{117}. Learning transfer was an outcome measured by Pisani et al. in their evaluation of a training for mental health
professionals to address suicide risk\textsuperscript{102} as well as in a 2019 RCT by Cross et al. assessing suicide prevention training for primary care providers\textsuperscript{75}. The development and validation of the LTSI was has been documented and improved in multiple studies by Holton et al.\textsuperscript{118-120}. Version 3 of the LTSI is an updated generalizable tool created on the basis on sixteen transfer system constructs identified in their study, making up a 68-item instrument\textsuperscript{118}. Since learning transfer is being used as one of multiple secondary outcomes in our study, we chose to select one question from each of the constructs to develop our 16-item LTSI, as further explained in Chapter 3. Our learning transfer scale can be found in Appendix G.

Acceptability is defined as the perception of recipients that a training, service, practice, or innovation is agreeable or satisfactory\textsuperscript{121}. Acceptability is often used as an outcome of trainings on LGBTQ care, as it is used for feedback on the training itself and can provide helpful information to improve the intervention in the future\textsuperscript{65,82,101}. Acceptability was measured using questions from a Bowen et al. study evaluating an online HIV prevention training for rural MSM.\textsuperscript{101} This outcome will be used to collect data on how interesting and useful the intervention was to participants. The full acceptability scale can be found in Appendix H.

\textbf{2.3.5 Study Population and Recruitment Approaches}

Due to the in-person nature of this intervention, the population was chosen to geographically be most likely to attend the training at Yale University in New Haven, CT. We will recruit by sending an email to the listservs of CT chapter of the American Academy of Pediatrics (CT-AAP), the Connecticut Academy of Physician Assistants (ConnAPA), and the Connecticut chapter of the National Association of Pediatric Nurse
Practitioners (NAPNAP). We will ask these organizations to post on their social media accounts and share that this training will earn participants continuing medical education (CME) credit. This approach is similar to Garg et al., who recruited their population of physicians by emailing the Pennsylvania chapter of AAP and offered CME credits upon completion of a training on smoking cessation counseling for parents. Berner et al. also reached oncologists via professional bodies to collect their knowledge, attitudes, and behavior regarding LGBTQ patients. Other studies in the literature assessed LGBTQ trainings for providers by using convenience sampling of those affiliated with the researcher’s institution, but this method might not allow us to reach the sample size necessary for our proposed study.

2.3.6 Inclusion and Exclusion Criteria

The inclusion and exclusion criteria have been designed to prevent drop-out and to share the FAP training with providers that will most likely be in a position to utilize the intervention information. Since our intervention informs clinical practice working with youth, the providers must be in a role that provides primary care to the pediatric population. These providers can be physicians, nurse practitioners, or physician assistants. They also must practice in the state of Connecticut and speak English, since the training will only be provided in English. Exclusion criteria includes not being available on both training days, seeing as each person will be randomized to one of the two training dates, as well as being a specialty pediatric provider, such as a pediatric endocrinologist or pediatric oncologist. This training is intended for primary care providers only.
2.3.7 Intervention

The intervention for this study is the FAP training for pediatric healthcare providers, as created and administered by Caitlin Ryan and the FAP organization\textsuperscript{125}. The contents of this training are further explained in Chapter 3. The FAP training for pediatricians was chosen for this study because it is an evidence-based intervention that has been awarded “Best Practice” for suicide prevention for LGBTQ people by the American Foundation for Suicide Prevention, but it has not yet been evaluated in a RCT setting. The organization has completed research on the risks associated with family rejection\textsuperscript{43}, the buffer effect of family acceptance\textsuperscript{29}, harms of school bullying and violence\textsuperscript{126-128}, and benefits of gay-straight alliances in schools\textsuperscript{129}. Based on these studies and their additional publications of family education\textsuperscript{46} in different languages (English, Spanish, Chinese) and directed toward certain populations (members of the Church of Latter-day Saints), they have created an evidence-based training that will be utilized as the intervention in our proposed study. See Chapter 3 for a full breakdown of the five parts of the training.

2.3.8 Sample Size

Throughout the literature, no RCT could be found that evaluated a LGBTQ training for health professionals and measured self-efficacy. Most studies assessing LGBTQ education for providers were solely pretest/posttest design\textsuperscript{82-86}. Therefore, we searched for studies with an RCT design that trained providers on a variety of subjects and measured self-efficacy as an outcome. Five studies were found that included these features. The trainings used in the selected studies covered the subject of HIV prevention\textsuperscript{101}, suicide risk\textsuperscript{102} and prevention\textsuperscript{103}, childhood obesity\textsuperscript{104}, and supportive
parenting for sexual minority youth. The effect size found in each of these studies was averaged, and this number was used in our calculation of sample size for our study. The reviewed literature is typically powered to an alpha of 0.05 and a beta of 0.20, which we will follow. Our final sample size is 90 pediatric healthcare providers (45 in each group). See Appendix I for an image of the sample size calculation.

2.4 Conclusion

Our proposed study aims to fill many important gaps in the current literature as covered in this chapter. First, it allows for the evaluation of the evidence-based training program from FAP. Although the training was created and is distributed by an organization which has done extensive research in the field of LGBTQ health, the efficacy of this training has not yet been assessed. Second, we will employ an RCT study design, which has been rarely implemented to assess provider training programs related to LGBTQ health. This study will specifically test the change in self-efficacy of providers to engage parents to support their LGBTQ child, as self-efficacy has been found to have strong correlation to change in behaviors. Our proposed study has the potential to educate providers with material that can protect LGBTQ youth from harm to their future physical and mental health.
References


107. Doyle D, Copeland HL, Bush D, Stein L, Thompson S. A course for nurses to handle difficult communication situations. A randomized controlled trial of


CHAPTER 3: STUDY METHODS

3.1 Study Design

This study is an RCT utilizing a pretest/posttest design within the intervention arm and the waitlist control arm to evaluate the impact of the FAP training. The intervention will not be masked. The Family Acceptance Project is an organization run by Caitlin Ryan that works toward research and methods to decrease poor health outcomes in LGBTQ youth. They have found that engaging families can protect LGBTQ youth from harmful conditions\(^1\). The faculty and staff at the Family Acceptance Project adapts their training to the target audience, stating on their website: “we customize training for your agency, institution, congregation, and community.”\(^2\) Therefore, the members of the organization will create and facilitate an in-person, half-day training geared towards pediatricians based on the extensive research completed by FAP. This training will take place at Yale School of Medicine, in the Anylan Center at 300 Cedar Street, New Haven in the N107 Auditorium.

An email with the sign-up link will be sent to the listservs of CT-AAP, ConnAPA, and the Connecticut chapter of NAPNAP. The leaders of these organizations will also be asked to post the link on their social media accounts. This email will state that CME credit will be offered if they chose to partake in our study. When signing up for the training and associated research study, pediatricians will follow the link to a Qualtrics survey where they will be asked to complete and sign a consent form before completing the pretest survey. The consent form can be seen in Appendix A. The pretest survey will include baseline characteristics, as seen in Appendix B, and surveys for outcome
measures (self-efficacy to engage parents, importance of training, knowledge of FAP materials, and attitudes toward LGBTQ individuals) as seen in Appendix C-F. At the end of the pretest survey, Qualtrics will randomize participants at a 1:1 ratio to either the intervention arm or the waitlist control arm. This ensures that all participants complete the pretest survey. The participants will know which day they will attend the training upon results of the randomization. The intervention arm will receive the training on the first chosen Saturday and the waitlist control arm will receive the training on the following Saturday.

After the first training, all participants in both arms will receive an email with a link to a Qualtrics survey with the posttest survey. The posttest will include the same outcome measure surveys as the pretest, expect the posttest for the intervention arm will include the learning transfer survey (Appendix G) and the acceptability survey (Appendix H). It will also ask for last three letters of their middle name and the last 4 digits of their phone number as a means to identify people and connect their pretest to their posttest. The intervention arm will be strongly encouraged to complete the posttest before they leave the training to promote adherence to the study. This posttest survey will need to be completed by the intervention arm in one week, with a reminder sent out on day 3 and day 6. The following Saturday, the waitlist control arm will receive the training. They will be asked to show completion of the posttest survey before the training begins. Since the pretest will be completed during recruitment, this intervention will last the 12 weeks of recruitment and two additional weeks for both arms to receive the training and complete the posttest, for a total of 14 weeks.
3.2 Study Population and Sampling

The population for this study is physicians, nurse practitioners, and physician assistants who provide primary care to pediatric patients in the state of Connecticut (CT). The provider must be available on both training days. Participants must also provide primary care to patients 10-18 years old, currently practicing in CT, and English speaking. Exclusion criteria are being unavailable both training days or providing specialty care (versus primary care) to patients. Inclusion and exclusion criteria are summarized in Table 1.

Table 1. Eligibility Criteria

<table>
<thead>
<tr>
<th>Inclusion Criteria</th>
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<tr>
<td>Primary care to patients 10-18 years old</td>
<td>Unavailable on both training days</td>
</tr>
<tr>
<td>Currently practicing in CT</td>
<td>Specialty care provider</td>
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<tr>
<td>English speaking</td>
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3.3 Recruitment

Participants will be recruited via email CT-AAP, ConnAPA, and the Connecticut chapter of NAPNAP. These organizations will also be asked to post the sign-up information and link on their social media accounts. The initial email/social media post will occur 12 weeks before the first training date. An example of information for the email can be found in Appendix J. This CT-AAP chapter has 600 active members and ConnAPA has 437 members. The email sent to CT-AAP, ConnAPA, and Connecticut NAPNAP will ask them to sign up for the FAP training and research study taking place New Haven if they work in general pediatrics, informing them they will be randomized to one of two consecutive Saturdays. The email will also consist of an explanation of the
study design and commitment. If they would like to sign up, then they will click the link to the Qualtrics survey and complete the consent followed by demographic information and the pretest survey. Members will be sent a follow up email asking them to join our research study and complete the pretest survey every 3 weeks during the 12-week recruitment period.

3.4 Subject Protection and Confidentiality

Our study will be completed upon review and approval from the Institutional Review Board (IRB) at Yale University. All participants must provide informed consent including an electronic signature prior to signing up and completing the pretest survey. The consent form will be located in the first section of the Qualtrics pretest survey. This consent form contains a study description, duration of participation, and potential risk and benefits of the study. It will be available only in English, as the training will be given in English only. An example of the informed consent form can be found in Appendix A. Participants will complete the pretest and posttest surveys anonymously, but they will provide the first 3 letters of their middle name and the last 4 digits of their phone number as a means to connect each participant’s pretest survey to their posttest survey.

3.5 Study Variables and Measures

In this section, we will further explain the independent variable for our study, as well as the primary and secondary outcomes and the measures used for these outcomes. We will also discuss variables that could potentially confound our study.

3.5.1 Independent Variable

The independent variable and intervention for our proposed study is a pediatrician training from the Family Acceptance Project on engaging parents to support their
LGBTQ child. Participants (i.e., pediatricians) will be randomly assigned to either the intervention arm or the waitlist control arm of the study. The waitlist control arm was chosen as the control in order to prevent withholding of the training from any pediatricians. The training for pediatricians will include five parts.

Part 1: Background and Research

Background will include training pediatricians on the epidemiology of mental health among LGBTQ young people including elevated rates of depression, anxiety, substance use, and suicidality. Pediatricians will also be trained on how familial support or rejection can buffer or exacerbate mental health problems among LGBTQ youth. This section will include exploring behaviors that families use to respond to their child’s gender or sexual identity. A list of 20 of these behaviors will be distributed and participants will be asked to classify them as accepting, rejecting, or neutral. The answers will be given, and a discussion will follow. This section is intended to educate pediatricians on the importance of family in mental health of LGBTQ youth and to help them understand actions that are interpreted by LGBTQ youth as rejecting.

Part 2: “Families Are Forever”

Next, the participants will watch the 21-minute film entitled “Families are Forever”. This film follows devout Mormon parents and their journey to accept their gay son. This film will give additional insight to the thought process of parents and the resources this particular family used to increase their education on the health of LGBTQ youth and the role that families play. The short documentary will also be distributed to the pediatricians for them to share with parents in their clinic. A discussion will be moderated by the FAP staff, including questions such as “what surprised you most about
this story?” and “where do you see yourself fitting into a family’s journey to accepting their LGBTQ child?”

*Part 3: Screening for Children Experiencing Rejection*

This section will include training specifically for the FAPrisk Screener. This screener assesses family rejection and health risks in LGBTQ youth. It is primarily meant to discover extremely harmful family rejection that may result in the child’s removal or ejection from the home. This section will include both teaching pediatricians how to use the tool as well as steps to take to follow up with youth and families. This portion of the overall training is important because providers must discover if a child is experiencing rejection prior to engaging parents in a conversation on how to change their language and actions to show more support.

*Part 4: Practice Cases*

The FAP faculty will begin this section by role-playing a provider, a pediatric patient, and the patient’s parent. They will utilize the FAPrisk Screener and continue to engage the parent in a conversation on how their actions impact the health of their child, including statistics on how rejection leads to increased rates of depression, suicide attempts, substance use disorders, and sexually transmitted diseases. They will also share changes that can be interpreted as support by their child, protecting against these outcomes. This includes actions such as having a conversation with their child about their sexual orientation or gender identity and believing that they can have a good life. After the example case, the pediatricians will split into groups of 3. The person playing the patient and the patient’s parent will have scripts and the person acting as the provider will have to navigate the visit.
Part 5: Conclusion

The training will end with a question-and-answer session. Resources will also be shared with pediatricians for them to share with families and patients, including National Federation of Parents and Friends of Lesbian and Gays (PFLAG) and Human Rights Campaign (HRC) FamilyNet. Posters from FAP will also be distributed that break down family behaviors that impact the health and well-being of LGBTQ youth. Pediatricians will be encouraged to display these in their offices. They will be asked to complete the posttest survey before they leave if possible, but they will be allotted an entire week to complete the survey.

3.5.2 Primary Dependent Variable

The primary dependent variable (primary outcome) is the mean-score of provider’s self-efficacy in utilizing the FAP training. Since no prior validated tools were present in the literature to assess this training, we will adapt a self-efficacy scale from Ufomata et al. with guidance on constructing self-efficacy scales from Bandura. This scale was adapted to specifically reflect the teaching points in the FAP training. Ufomata et al. completed a study evaluating a LGBT primary care curriculum for internal medicine residents. In our adaptation, we preserved the sentence structure previously used, but changed the language to be specific to the topics covered in the FAP training and to address parents of patients as opposed to patients themselves. An example of a question from the Ufomata et al. survey is “how confident are you in your ability to recognize increased health risks associated with sexual orientation?” which was adapted to “how confident are you in your ability to recognize increased health risks associated with parental rejection of sexual orientation and gender identity?” This adaptation
process resulted in a final scale of 10 questions on skills taught in the FAP training measured on a 5-point Likert scale from “1-not very confident” to “5-extremely confident”. The full survey can be found in Appendix C. This survey will be answered by participants both before and after the training. The development of this scale was completed with the assistance of experts in LGBTQ parent-child relationships and will be piloted with a group of Yale University pediatric faculty and fellows prior to the study.

3.5.3 Secondary Dependent Variables

There are five secondary outcomes of interest: (1) importance of FAP training (“importance”), (2) knowledge of FAP training materials (“knowledge”), (3) attitudes toward LGBTQ people (“attitudes”), (4) perception that training material will be transferred into practice (“learning transfer”), and (5) acceptability of the training (“acceptability”). The first three secondary dependent variables will be assessed on both the pretest and the posttest. Learning transfer and acceptability will be assessed by the intervention arm on the posttest only.

The importance measure assesses the pediatrician’s view on how important it is for those working in their profession to be taught the FAP material. This will be measured by a survey that we adapted from Ufomata et al. using the same methods as we used to adapt the self-efficacy. The same format of question used by Ufomata et al. was preserved, but subject of each question was changed to refer to our specific intervention. This process resulted in a 10-question survey that assesses the same skills as the self-efficacy scale. An example of a question from Ufomata et al. is “how important is it for IM residents to recognize increased health risks associated with sexual orientation?”, and the adapted question is “how important is it for pediatricians to
recognize increased health risks associated with parental rejection of sexual orientation and gender identity?” All questions will be answered on a 5-point Likert scale from “1-not important” to “5-extremely important”. The full survey can be found in Appendix D.

Knowledge of FAP material will be assessed by a 15-item multiple choice quiz based on the training provided to the pediatricians. This scale was created by the authors to reflect the specific goals of the FAP training. One multiple choice question asks, “by what age is gender identity most often expressed?”, with the options of ages 3, 9, 13, or 18. These questions will be answered by choices a-d. The full scale can be found in Appendix E. A sum score of correct answers will be computed.

Provider attitudes toward LGBTQ individuals will be assessed using the attitudes portion of the Sexual Orientation Counselor Competency Scale (SOCCS) from Bidell et al5. This measure assesses the perspective of participants on LGBTQ people in general. This scale was adapted to include gender minorities. The knowledge and skills portions of the SOCCS were not relevant to our proposed study, as they were more focused on counseling LGBTQ individuals as opposed to parents of LGBTQ youth. This scale will be reverse scored seeing as the questions are framed in a negative way. An example of a question includes, “it would be best if my patients viewed a heterosexual, cisgender lifestyle as ideal.” All questions will be answered on 5-point Likert scales from “1-strongly disagree” to “5-strongly agree”. The full survey can be found in Appendix F.

Items from the Learning Transfer Skills Intervention (LTSI) will be used to assess the likelihood that providers to utilize the skills from the training in their practice. This will be assessed on the posttest for the intervention arm. This survey consists of 68 questions6, but we chose one question from each of the 16 constructs of the LTSI in order
to keep the survey relatively brief. The 16 constructs of the LTSI are learner readiness, motivation to transfer, positive personal outcomes, negative personal outcomes, personal capacity for transfer, peer support, supervisor support, supervisor sanctions, perceived content validity, transfer design, opportunity to use, general factors, transfer effort performance expectations, performance outcomes expectations, openness to change, performance self-efficacy, and performance coaching. The question chosen from the peer support construct is “my colleagues encourage and support me to use the skills I have learned in the FAP training.” Each question was adapted from referring to a general training to referring to the FAP training. For example, whenever the original scale stated “the training”, we changed this to say “the FAP training.” Participants will answer these questions on a 5-point Likert scale from “1-strongly disagree” to “5-strongly agree”. Two of these items (#4 and #8) will be reverse scored, as they are worded in a negative fashion. The full learning transfer survey can be found in Appendix G.

The acceptability of the training will also be measured only on the posttest for the intervention arm, using questions from Bowen et al. such as, “Overall, how interesting was this training?” Each of the four acceptability questions will be answered on a 5-point Likert scale. The acceptability scale can be found in Appendix H.

3.5.4 Potential Confounding Variables

Provider characteristics that could potentially confound the study, as identified in Chapter 2, will be collected in the pretest as baseline characteristics of the pediatricians. These will then be compared between the two arms using bivariate analysis to check for statistical significance between the two groups. These potential confounders include demographic characteristics (age, race/ethnicity, gender, sexual orientation),
training/experience (number of years worked in the profession, previous hours of training on LGBTQ youth), and exposure to LGBTQ patients (number of LGBTQ patients per week and number of LGBTQ patients seen in lifetime). These will be collected and compared between the two arms in order to ensure that randomization prevented these variables from confounding our study. If there are statistically significant differences, they will be adjusted for in analysis. A summary of baseline characteristics and how we plan to analyze them can be found in Table 2.

Table 2. Baseline Characteristics of Study Participants

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<td>Hispanic</td>
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<td>n (%)</td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>n (%)</td>
<td>n (%)</td>
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<tr>
<td>&gt;one race</td>
<td>n (%)</td>
<td>n (%)</td>
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</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td>Chi-square test</td>
</tr>
<tr>
<td>Male</td>
<td>n (%)</td>
<td>n (%)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>n (%)</td>
<td>n (%)</td>
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<tr>
<td>Other</td>
<td>n (%)</td>
<td>n (%)</td>
<td></td>
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<tr>
<td>Sexual Orientation</td>
<td></td>
<td></td>
<td>Chi-square test</td>
</tr>
<tr>
<td>Straight</td>
<td>n (%)</td>
<td>n (%)</td>
<td></td>
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<tr>
<td>Bisexual</td>
<td>n (%)</td>
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<td></td>
</tr>
<tr>
<td>Gay/Lesbian</td>
<td>n (%)</td>
<td>n (%)</td>
<td></td>
</tr>
<tr>
<td>Specialty Training</td>
<td></td>
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<td>Chi-square test</td>
</tr>
<tr>
<td>Yes</td>
<td>n (%)</td>
<td>n (%)</td>
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<tr>
<td><strong>Previous LGBTQ Training</strong></td>
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<td>Chi-square test</td>
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<tr>
<td>&lt;1 hour</td>
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<td>1-2 hours</td>
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<td>&gt;5 hours</td>
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<tr>
<td><strong>LGBTQ patients/week</strong></td>
<td>Mean ± SD</td>
<td>Mean ± SD</td>
<td>Student t-test</td>
</tr>
<tr>
<td><strong>LGBTQ Patients in Lifetime</strong></td>
<td>Mean ± SD</td>
<td>Mean ± SD</td>
<td>Student t-test</td>
</tr>
</tbody>
</table>

### 3.6 Sample Size Calculation

Five RCTs were found that involved a training intervention with health care professionals that use self-efficacy as an outcome. The trainings used in these studies cover various subjects, including HIV prevention\(^7\), suicide risk\(^8\) and prevention\(^9\), childhood obesity\(^10\), and supportive parenting for sexual minority youth\(^11\). The Cohen’s d effect size for change of self-efficacy in each of these studies was 0.32, 0.94, 1.02, 0.67, and 0.31, respectively. The average of these effect sizes is 0.65. Using G*Power 3.1 software with a two-tailed test, an \(\alpha\) error of 0.05, and a power of 0.80, the minimum sample size is 78, with 39 in each arm. An additional 15% will be added to ensure valid data, leading to a total desired sample size of at least 90 people.

### 3.7 Statistical Analysis

First, baseline characteristics will be compared between the intervention arm and the control arm using bivariate comparison to test that randomization was successful, expecting the p-value for each comparison to be >0.05. If baseline differences are found
between arms, we will include those variables as covariates in our mixed models regression. However, we expect that randomization will balance characteristics between intervention and control arm as reflected in the following analytic plan. We will assess all continuous outcomes for normality.

Second, linear mixed models will be used to assess the Condition x Time interaction for the primary outcome of self-efficacy as well as the secondary outcomes of importance, knowledge, and attitudes. We will limit the data to pretest (time = 0) and posttest (time = 1) and examine the Condition x Time interaction effect of receiving the FAP training on the first Saturday (condition = 1) versus being in the waitlist control arm (condition = 0). This will allow the estimate of interest to compare the intervention arm’s pretest to posttest to the waitlist control arm’s pretest to posttest. Effect sizes for linear mixed models will be calculated as mean pre-post change in the intervention group minus the mean pre-post change in the waitlist control group, divided by the pooled baseline standard deviation. Linear mixed models were chosen because they employ maximum likelihood estimation to handle potential missing data. Analyses will be two-tailed and statistical significance for all analyses will be assessed at \( p < 0.05 \). Since data for the secondary outcomes of acceptability and learning transfer will only be gathered on the post-test in the intervention arm, the mean scores and standard deviations will be collected.
References


CHAPTER 4: CONCLUSION

4.1 Advantages

Our study has many notable strengths. First, the RCT design allows for randomization of participants to the intervention arm or the waitlist control arm. This study design prevents outside influence, such as confounding variables, from interfering with our evaluation of the relationship between the FAP training and providers self-efficacy in engaging parents to support their LGBTQ child. The RCT design is considered ideal for determining causation\(^1\).

Another strength is the use of an intervention that is evidence-based and that has been awarded “Best Practice” for suicide prevention by the American Foundation for Suicide Prevention. The FAP training was created based on extensive research completed by the FAP organization, comprised of researchers with expertise in the health of LGBTQ youth\(^2\). This training has been administered to many different populations around the United States, including providers, religious leaders, parents, and caregivers of LGBTQ youth. Therefore, this material has received feedback used to improve the training. It is also taught by members of the FAP itself, therefore the information is coming directly from members of the organization that created the material. This indicates that those who lead the training witnessed the process of its creation, from the discoveries in research to the distribution of their expert knowledge.

A strength of the timeline of the surveys is that everyone must complete the pretest survey on Qualtrics in order to be assigned to one of the two training dates. When the intervention arm completes the study, they can be encouraged to complete the posttest
before they leave the training site, and we can ensure the control arm has completed the posttest before they receive their training session. This makes it less likely that people will attend the training without completing the pretest and posttest surveys.

Our study is recruiting pediatricians throughout CT who are currently practicing. This means that the participants in our study can begin utilizing the skills from the training immediately with their patients. We hope that we can recruit a large and diverse sample, especially since we are providing CME credits. We have also strengthened internal validity by adding an extra 15% to our calculated sample size.

Our study is feasible and ethical. The surveys can be done online in a reasonable time period of approximately 30 minutes. Due to Connecticut being a small state, it is convenient for pediatric providers from the state to travel to New Haven to receive the training material. There is no ethical concern regarding distributing this material due to the evidence-based nature of this training.

4.2 Limitations

Despite significant consideration while we created the study methodology, we recognize that the study has potential limitations. Our outcome measures are based on self-report, which possibly allows for discrepancies between participants’ perceived efficacy and actual implementation of the skills learned in the FAP training. The self-report nature of our outcome measures has the potential to contribute to information bias. The primary outcome of self-efficacy was chosen because of its theorized correlation to behavioral intention\(^3\), but seeing as there is no validated scale to assess the success of the FAP training, we adapted an existing scale to fit with the skills we will measure in our
study. While we are confident in this scale and adapted it based on guidelines\textsuperscript{4}, the lack of validation of the tool does create a limitation.

In order to prevent drop-out and increase feasibility, this study only has two time points: pretest and posttest. This indicates that our study only collects data on the immediate effects of the FAP training. Our methods do not involve analyzing how self-efficacy changes with time after the intervention, nor do we test any change in the actual behavior of pediatricians that may develop on a long-term timeline. This gives an opportunity for further studies that include additional time points that allow for collection of data on changes of pediatrician’s actual behaviors and use of skills from the FAP training.

Our target population includes all pediatric providers in the state of CT. This creates better generalizability and external validity than only utilizing pediatricians from the Yale University health system, but providers in CT likely do not reflect providers in the entire country. Future directions include studies that reach out to pediatricians in different geographic areas of the United States, such as states in Southern US, where sexual minorities have reported more discrimination versus other states in the US\textsuperscript{5}.

The recruitment process in our study involves people choosing to sign-up for the training and research study. This may contribute to selection bias, as it is likely that providers interested in the subject of LGBTQ health may be more likely to sign up for the training. Those who are less familiar with the importance of pediatric care specific to the LGBTQ population may not elect to spend their time attending our training. We will provide CME credits to participants to attract pediatricians that might not have a primary interest in LGBTQ health.
4.3 Clinical Implications

There is ample research demonstrating the harms of parental rejection and the protection of parental acceptance\textsuperscript{6-10}, but there is a dearth of studies on how to address this problem. Our study has the potential to impact many LGBTQ children and their families by utilizing the regular schedule and private space that comes with visiting a pediatrician. Parents often have difficulty initially seeking out information on having an LGBTQ child, and equipping pediatricians with these skills allows parents to have easy access to this information. Once pediatricians feel confident in their ability to utilize the FAP material in their practice, it can be integrated into their standard of care and families can be given the tools and information to support their child and protect them from poor health risks.

The FAP training provides pediatricians with the knowledge and skills to identify LGBTQ youth experiencing rejection from families and steps to engage parents in a conversation about the importance of supporting their child’s sexual orientation or gender identity. We recognize that one study evaluating pediatrician self-efficacy is not enough to change all of clinical practice, but the success of our study would signify progress in educating professionals to encourage health-protecting behavior of parents, thus improving the health of vulnerable LGBTQ youth.
References

APPENDICES

Appendix A: Consent Form

Online Informed Consent Script for Participation in a Research Study
HSC #

Hi, my name is Siena Tice and I am a graduate student from Yale. I am conducting a research study to examine the impact of a training from the Family Acceptance Project on self-efficacy of pediatricians to engage parents in supporting their LGBTQ child. The goal of this study is to improve the confidence of pediatricians in assessing for and addressing support of their patient’s sexual orientation or gender identity. Participation in this study will involve being randomized to one of two consecutive Saturday trainings, as well as completing a pre-test survey and a post-test survey. Your involvement will require approximately 4 hours for the training and a half hour to complete the two surveys. You will receive CME credit for participating.

You may experience distress over the questions on attitudes of LGBTQ attitudes and the stories of young people in emotional pain from rejection of their sexual orientation or gender identity. This study will benefit you personally by sharing the evidence-based training with you on screening for rejection from family and engaging parents to support their LGBTQ child. We also hope that our results will add to the knowledge about how pediatricians can have an impact in improving the lives of these children, potentially protecting these children from poor health outcomes.

All of your responses will be held in confidence. Only the researchers involved in this study and those responsible for research oversight will have access to the information you provide. Your responses will be collected online through Qualtrics.

Your responses will be connected to you only by using an identifier of the first 3 letters of your middle name and the last four digits of your phone number. This is necessary to connect the pre-test to the post-test. The information you provide will be destroyed and deleted after the study is completed.

Participation in this study is completely voluntary. You are free to decline to participate, to end participation at any time for any reason, or to refuse to answer any individual question without penalty or loss of compensation. Your decision whether or not to participate in this study will not affect your relationship with Yale University.

If you have any questions about this study, you may contact the investigator, Siena Tice at siena.tice@yale.edu.

If you would like to talk with someone other than the researchers to discuss problems or concerns, to discuss situations in the event that a member of the research team is not available, or to discuss your rights as a research participant, you may contact the Yale
University Human Subjects Committee, 203-785-4688, human.subjects@yale.edu. Additional information is available at https://your.yale.edu/research-support/human-research/research-participants/rights-research-participant

Do you have any questions at this time? Would you like to participate in the study?
Appendix B: Participant Characteristics

* = collected on pretest and posttest
^ = collected on pretest only

**Identifier** (last 3 letters of middle name and last 4 digits of phone number):
________________________

**Characteristics**

Age: ______________________

Years in Profession: __________

Race/Ethnicity: please select one – White  Black  Hispanic  Asian  >one race

Gender: please select one – Male  Female  Other

Sexual Orientation: please select one – Straight  Bisexual  Gay/Lesbian

Specialty Training: please select one – Yes  No

Previous LGBTQ Training: please select one – <1 hour  1-2 hours  3-4 hours  >5 hours

Number of LGBTQ Patients/week: _________________

Number of LGBTQ Patients in Lifetime: ____________________

Do you provide primary care to patients 10-18 years old?  Yes  No

Do you practice in CT?  Yes  No

Are you available on both training days?  Yes  No

*Note: You MUST be available on both potential training days to sign-up!*

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Appendix C: Self-Efficacy Scale

To be collected on both pretest and posttest
Adapted from Ufomata et al.\textsuperscript{1} to reflect skills in FAP training, guided by Bandura chapter entitled \textit{Guide for Constructing Self-Efficacy Scales}\textsuperscript{2}

Instructions: The following list contains items about different things a pediatrician may do. Please rate how \textbf{confident} you are in your ability to do them \textbf{as of now} from 1 to 5 using the scale below.

1—Not very confident  
2—Minimally confident  
3—Somewhat confident  
4—Very confident  
5—Extremely confident

1. How confident are you in your knowledge of health implications of parental support or rejection of their LGBTQ child?  
2. How confident are you in your ability to recognize increased health risks associated with parental rejection of sexual orientation and gender identity?  
3. How confident are you in your ability to provide information to parents of LGBTQ patients about LGBTQ-affirmative community resources, support groups, and social networks?  
4. How confident are you in your ability to identify parental behaviors that are rejecting of their child’s sexual orientation or gender identity?  
5. How confident are you in your ability to counsel parents to change their behaviors that are rejecting of their child’s sexual orientation or gender identity?  
6. How confident are you in your ability to identify parental behaviors that are supportive of their child’s sexual orientation or gender identity?  
7. How confident are you in your ability to counsel parents to support their LGBTQ child?  
8. How confident are you in your ability to discuss sexual orientation or gender identity of their child with parents?  
9. How confident are you in your ability to engage parents in a conversation about mental health risks of their LGBTQ child?  
10. How confident are you in your ability to screen pediatric patients for rejection of their sexual orientation or gender identity from family?  

LGBTQ = lesbian, gay, bisexual, transgender, or queer/questioning
Appendix D: Importance Scale

To be collected on both pretest and posttest
Adapted from Ufomata et al.\textsuperscript{1} to reflect skills in FAP training

Instructions: The following list contains items about different things a pediatrician may do. Please rate their importance for a pediatrician from 1 to 5 using the scale below.

1—Not important
2—Minimally important
3—Somewhat important
4—Very important
5—Extremely important

1. How important is it for pediatricians to receive education about the health implications of parental support or rejection of their lesbian, gay, bisexual, transgender, or queer child?
2. How important is it for pediatricians to recognize increased health risks associated with parental rejection of sexual orientation and gender identity?
3. How important is it for pediatricians to provide information to parents of LGBTQ patients about LGBTQ-affirmative community resources, support groups, and social networks?
4. How important is it for pediatricians to identify parental behaviors that are rejecting of their child’s sexual orientation or gender identity?
5. How important is it for pediatricians to counsel parents to change their behaviors that are rejecting of their child’s sexual orientation or gender identity?
6. How important is it for pediatricians to identify parental behaviors that are supportive of their child’s sexual orientation or gender identity?
7. How important is it for pediatricians to counsel parents to support their LGBTQ child?
8. How important is it for pediatricians to discuss sexual orientation or gender identity of a child with their parents?
9. How important is it for pediatricians to engage parents in a conversation about mental health risks of their LGBTQ child?
10. How important is it for pediatricians to screen pediatric patients for rejection of their sexual orientation or gender identity from family?

LGBTQ = lesbian, gay, bisexual, transgender, or queer/questioning
Appendix E: Knowledge Scale

To be collected on both pretest and posttest
This scale was created by the authors to evaluate the knowledge of participants on the teaching points included in the FAP training.

Instructions: Answer each question with the best answer.

1. At what average age do adolescents self-identify as LGB?1
   a. 3
   b. 9
   c. 13
   d. 18

2. By what age is gender identity most often expressed?1
   a. 3
   b. 9
   c. 13
   d. 18

3. About what percentage of sexual minority students attempted suicide according to the 2015-2017 Youth Risk Behavior show?3
   a. 6%
   b. 14%
   c. 25%
   d. 40%

4. Compared to sexual minority youth who experience low levels of family rejection, those that experience high levels of family rejection are about how many times more likely to report having attempted suicide?4
   a. 2 times as likely
   b. 4 times as likely
   c. 6 times as likely
   d. 8 times as likely

5. Higher rates of family rejection have been found to correlate with higher rates of all of the following except:5
   a. Education
   b. Depression
   c. Illegal drug use
   d. Unprotected sexual intercourse

6. Which of the following is a behavior from parents that is often interpreted by their child as rejecting of their sexual orientation or gender identity?5
   a. Ignoring the child’s sexual orientation or gender identity
b. Asking the child questions about their sexual orientation or gender identity
c. Speaking openly about the child’s sexual orientation or gender identity
d. Believing their LGBTQ child can be an adult with a good life

7. Which of the following is a behavior from parents that is often interpreted by their child as **accepting** of their sexual orientation or gender identity?5
   a. Trying to change the child’s sexual orientation or gender identity
   b. Finding a religious space that allow LGBTQ people
   c. Advising their child to wear clothes that match their sex assigned at birth
   d. Preventing their LGBTQ child from accessing LGBTQ services

8. Parents of which faith will never accept the sexual orientation or gender identity of their LGBTQ child?5
   a. Catholic
   b. Mormon
   c. Buddhist
   d. None of the above

9. What is the FAPrisk Screener used for?
   a. Assess presence of family rejection
   b. Discover the sexual orientation or gender identity of the patient
   c. Identify the likelihood of substance use
   d. Quantify levels of patient’s depression and anxiety

10. What is the primary goal of the FAPrisk Screener?
    a. Identify children most at risk of homelessness
    b. Classify patients as LGBTQ
    c. Provide resources for LGBTQ youth suffering from depression or anxiety
    d. Advise patients to stop using substances

11. Which of the following is NOT a resource to share with parents of LGBTQ children?6
    a. Parents and Friends of Lesbian and Gays (PFLAG)
    b. Human Rights Campaign (HRC)
    c. Family Acceptance Project (FAP)
    d. American Family Association (AFA)

12. If you know a parent exhibits rejecting behaviors towards their LGBTQ child, an important part of the following conversation is:
    a. Shaming the parent for harming their child
    b. Addressing why the parent engages in rejecting behavior
    c. Informing the parent that they’re wrong for making rejecting statements
    d. Accusing the parent of not loving their child
13. Of the following, which piece of information for rejecting families is not a part of the FAP model?
   a. Harms of parental rejection on the mental health of the LGBTQ child
   b. The different actions and words from parents that might be interpreted as rejecting by their LGBTQ child
   c. Stories of other parents of LGBTQ children that regret losing contact with their child
   d. Recommendations for family therapy

14. The Family Acceptance Project engages in all of the following except:
   a. Research on the health of LGBTQ youth
   b. Primarily working directly with LGBTQ youth
   c. Advocating for policy changes that protect LGBTQ youth
   d. Creating resources for families with LGBTQ children

15. What is something pediatricians can do to make their LGBTQ patients more comfortable in their office?
   a. Display posters that are supportive of LGBTQ people
   b. Not allow staff to wear a pin with the pride flag
   c. Avoid conversation about sexual orientation or gender identity
   d. Decrease amount of eye contact

LGB = lesbian, gay, or bisexual
LGBTQ = lesbian, gay, bisexual, transgender, or queer/questioning
FAP = Family Acceptance Project

Appendix F: Attitudes Scale

To be collected on both pretest and posttest
This is the attitude portion of the Sexual Orientation Counselor Competency Scale, adapted from Bidell to include gender minorities. All items will be reverse scored.

Instructions: Rate the truth of each item as it applies to you using the scale below.

1—Strongly disagree
2—Disagree
3—Neither agree or disagree
4—Agree
5—Strongly agree

1. The lifestyle of LGBTQ people is unnatural or immoral.
2. Personally, I think homosexuality is a mental disorder or a sin and can be treated through counseling or spiritual help.
3. When it comes to homosexuality, I agree with the statement: “You should love the sinner, but hate or condemn the sin.”
4. I believe that LGBTQ couples don’t need special rights (domestic partner benefits, the right to marry) because that would undermine normal and traditional family values.
5. It would be best if my clients viewed a heterosexual, cisgender lifestyle as ideal.
6. I think that my clients should accept some degree of conformity to traditional sexual and gender values.
7. I believe that all LGBTQ clients must be discreet about their sexual orientation or gender identity around children.
8. It’s obvious that a same sex relationship between two men or two women is not as strong or as committed as one between a man and a woman.
9. I believe that being highly discreet about their sexual orientation or gender identity is a trait that LGBTQ people should work towards.
10. I believe that LGBTQ clients will benefit most from counseling with a heterosexual, cisgender counselor who endorses conventional values and norms.

LGBTQ = lesbian, gay, bisexual, transgender, or queer/questioning
Appendix G: Learning Transfer Scale

To be collected on intervention arm posttest only
Questions taken from the Learning Transfer System Inventory (LTSI), adapted from Pisani et al.⁸, Holton et al.⁹ to be specific to FAP training.

Instructions: Rate the truth of each item as it applies to you using the scale below.

1—Strongly disagree  
2—Disagree  
3—Neither agree or disagree  
4—Agree  
5—Strongly agree

1. Prior to the FAP training, I understood how it would contribute to my development as a pediatrician.  
2. I get excited when I think about trying to use the FAP training in practice.  
3. Employees in my organization are rewarded when they utilize newly learned skills on the job.  
4. If I do not utilize content from the FAP training, I will be cautioned about it.*  
5. My typical daily workload gives me time to try new things I have learned.  
6. My colleagues encourage and support me to use the skills I have learning in the FAP training.  
7. My supervisor encourages me to apply my training on the job and sets goals for me.  
8. My supervisor is opposed to my use of newly learned skills on the job.*  
9. The FAP training content closely matches my job requirements.  
10. The FAP training exercises and activities helped me apply my new leaning on the job.  
11. I feel I have adequate resources to use information from the FAP training on the job.  
12. My work performance improves when I learn to use new skills on the job.  
13. When I improve my performance, I receive positive benefits and outcomes.  
14. My colleagues are open to implementing on-the-job changes.  
15. I feel able to implement newly learned skills from the FAP training on the job.  
16. I receive feedback from colleagues and supervisors about how well I am applying what I have learned.

FAP = Family Acceptance Project
Appendix H: Acceptability Scale

To be collected on intervention arm posttest only
Adapted from Bowen et al.\textsuperscript{10} to be specific to FAP training.

Instructions: Answer the questions based on the scales given for each item.

(i) ‘Overall, how interesting was the FAP training?’
   1—Not interesting
   2—Minimally interesting
   3—Somewhat interesting
   4—Very interesting
   5—Extremely interesting

(ii) ‘Overall, how useful was the FAP training?’
    1—Not useful
    2—Minimally useful
    3—Somewhat useful
    4—Very useful
    5—Extremely useful

(iii) ‘Would you do the FAP training again?’
     1—Definitely no
     2—Probably no
     3—Maybe
     4—Probably yes
     5—Definitely yes

(iv) ‘Would you recommend the FAP training to a friend?’
     1—Definitely no
     2—Probably no
     3—Maybe
     4—Probably yes
     5—Definitely yes

FAP = Family Acceptance Project
Appendix I: Sample Size Calculation

![Sample Size Calculation Diagram](image)

**Test family**
- t tests

**Statistical test**
- Means: Difference between two independent means (two groups)

**Type of power analysis**
- A priori: Compute required sample size - given α, power, and effect size

**Input parameters**
- Tail(s): Two
- Effect size d: 0.65
- α err prob: 0.05
- Power (1-β err prob): 0.8
- Allocation ratio N2/N1: 1

**Output parameters**
- Noncentrality parameter δ: 2.8703223
- Critical t: 1.9916726
- Df: 76
- Sample size group 1: 39
- Sample size group 2: 39
- Total sample size: 78
- Actual power: 0.8089174
Appendix J: Recruitment Email

PLEASE CONSIDER JOINING OUR RESEARCH STUDY!

WHO: Pediatric providers working in primary care
WHAT: Training from the Family Acceptance Project on engaging parents of LGBTQ children to support their child
WHERE: At Yale University School of Medicine
WHEN: One of two Saturdays, must be available on both days
WHY: Increasing parental support of LGBTQ children can protect them against poor mental health outcomes. Attend the training to learn more!
ALSO: Study participation will require the completion of 2 surveys, taking less than 30 minutes each!

CME credits offered for participation!
References


Bibliography


